

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the present application:

1. (Previously presented) A computer-implemented apparatus for use by a plurality of users using a plurality of user devices, the apparatus comprising a plurality of agents of a plurality of different types to communicate with each other, at least some of the agents representing physical entities, the plurality of agents including:

a plurality of device agents, each representing one of the plurality of user devices; and

a plurality of persona agents, which are separate entities from the device agents, each of the persona agents representing one of the plurality of users;

wherein the plurality of persona agents collect information about properties of other agents, including the device agents, and route the collected information to one or more other agents, of the plurality of agents, which subscribe to the properties.

2-5. (Canceled)

6. (Previously presented) A computer-implemented apparatus as recited in claim 1, wherein the device agents communicate with each other through one or more of the persona agents.

7. (Previously presented) A computer-implemented apparatus as recited in claim 6, wherein each of the plurality of agents has a set of properties to maintain state information.

8. (Original) A computer-implemented apparatus as recited in claim 7, wherein the plurality of user devices comprises a wireless device, the wireless device comprising an embedded client application configured to receive and interpret extensible markup language data representing changes to said state information.

9. (Previously presented) A computer-implemented apparatus as recited in claim 1, wherein at least one of the device agents represents a wireless user device that has an intermittent connection to the other user devices, wherein said device agent has a set of subscriptions and maintains state information for the set of subscriptions, and wherein said device agent communicates with a corresponding one of the persona agents to update said state information.

10. (Original) A computer-implemented apparatus as recited in claim 9, wherein said corresponding one of the persona agents automatically publishes to said device agent state information to which the device agent has subscribed, when the user device represented by said device agent establishes the connection.

11. (Previously presented) A computer-implemented apparatus as recited in claim 1, wherein the plurality of agents use a data synchronization process to update state information.

12. (Original) A computer-implemented apparatus as recited in claim 11, wherein at least some of the agents cache state information received from another agent.

13. (Original) A computer-implemented apparatus as recited in claim 1, wherein the plurality of agents comprises a chat agent to represent a chat session.

14. (Original) A computer-implemented apparatus as recited in claim 1, wherein the plurality of user devices comprises a computer coupled to a wireline network and a mobile device operating on a wireless network, the computer and the mobile device each represented by a separate one of the agents.

15. (Original) A computer-implemented apparatus as recited in claim 1, wherein the agents communicate with each other using an extensible data interchange protocol.

16. (Original) A computer-implemented apparatus as recited in claim 15, wherein the agents communicate with each other using an extensible markup language (XML) based protocol.
17. (Original) A computer-implemented apparatus as recited in claim 1, wherein a change to a property of one of the agents is automatically published to an agent which has subscribed to the property of said one of the agents.
18. (Original) A computer-implemented apparatus as recited in claim 1, wherein at least some of the agents can set properties of other ones of the agents.
19. (Original) A computer-implemented apparatus as recited in claim 1, wherein for at least one of the agents, a user associated with said agent can control which agents may subscribe to properties of said agent.
20. (Original) A computer-implemented apparatus as recited in claim 1, wherein for at least one of the agents, a user associated with said agent can specify the properties of said agent to which other agents may subscribe.
21. (Original) A computer-implemented apparatus as recited in claim 20, wherein the user associated with said agent can specify the properties of said agent to which other agents may subscribe on a per-subscriber basis.
22. (Original) A computer-implemented apparatus as recited in claim 1, wherein the plurality of agents further comprises an interoperability agent to connect the messaging system with another messaging system.
23. (Original) A computer-implemented apparatus as recited in claim 22, wherein the interoperability agent converts between an extensible data interchange protocol used by the plurality of agents and another protocol used by said other messaging system.

24. (Original) A computer-implemented apparatus as recited in claim 1, wherein the apparatus embodies a messaging application.
25. (Original) A computer-implemented apparatus as recited in claim 24, wherein the messaging application comprises a user-to-user messaging application.
26. (Original) A computer-implemented apparatus as recited in claim 25, wherein the user-to-user messaging application is an Instant Messaging (IM) application.
27. (Original) A computer-implemented apparatus as recited in claim 1, wherein the apparatus embodies a content distribution application.
28. (Original) A computer-implemented apparatus as recited in claim 1, wherein the apparatus embodies a game application.
29. (Original) A computer-implemented apparatus as recited in claim 1, wherein the apparatus embodies a user collaboration application.
30. (Original) A computer-implemented apparatus as recited in claim 1, wherein the apparatus embodies a call setup application.
31. (Original) A computer-implemented apparatus as recited in claim 1, wherein the apparatus embodies a provisioning application.
32. (Original) A computer-implemented apparatus as recited in claim 1, wherein the apparatus embodies an alerting/notification application.
33. (Previously presented) A machine-readable storage medium storing instructions which embody an application for execution by a processing system, the application for use by a plurality of users using a plurality of user devices, such that the application, when executed, generates a plurality of agents of a plurality of different types to

communicate with each other, at least some of the agents representing physical entities, each agent having one or more properties and having the ability to subscribe to properties of other agents of the plurality of agents, the plurality of agents including:

- a plurality of device agents, each representing one of the plurality of user devices; and

- a plurality of persona agents, which are separate entities from the device agents, each of the persona agents representing one of the plurality of users;

- wherein the plurality of persona agents collect information about properties of other agents, including the device agents, and route the collected information to one or more other agents, of the plurality of agents, which subscribe to the properties.

34-40. (Canceled)

41. (Previously presented) A computer-implemented apparatus as recited in claim 1, wherein the agents communicate with each other by communicating extensible markup language (XML) fragments that represent changes to an XML document.

42-43. (Canceled)

44. (Previously presented) A computer-implemented apparatus as recited in claim 9, wherein the state information comprises device presence or location information.

45. (New) A computer-implemented apparatus for use by a plurality of users using a plurality of user devices, the apparatus comprising a plurality of agents of a plurality of different types to communicate with each other, at least some of the agents representing physical entities, the plurality of agents including:

- a plurality of device agents, each representing one of the plurality of user devices; and

- a plurality of persona agents, which are separate entities from the device agents, each of the persona agents representing one of the plurality of users;

wherein the plurality of persona agents collect information about properties of other agents, including the device agents, and route the collected information to one or more other agents, of the plurality of agents, which subscribe to the properties, and wherein the device agents communicate with each other through one or more of the persona agents.

46. (New) A computer-implemented apparatus as recited in claim 45, wherein each of the device agents communicate with other agents through a particular one of the persona agents which represents the same user device that the device agent represents.

47. (New) A computer-implemented apparatus for use by a plurality of users using a plurality of user devices, the apparatus comprising a plurality of agents of a plurality of different types to communicate with each other, at least some of the agents representing physical entities, the plurality of agents including:

- a plurality of device agents, each representing one of the plurality of user devices; and

- a plurality of persona agents, which are separate entities from the device agents, each of the persona agents representing one of the plurality of users;

- wherein the plurality of persona agents collect information about properties of other agents, including the device agents, and route the collected information to one or more other agents, of the plurality of agents, which subscribe to the properties, wherein at least one of the device agents represents a wireless user device that has an intermittent connection to the other user devices, wherein said at least one device agent has a set of subscriptions and maintains state information for the set of subscriptions, and wherein said at least one device agent communicates with a corresponding one of the persona agents to update said state information.

48. (New) A computer-implemented apparatus for use by a plurality of users using a plurality of user devices, the apparatus comprising a plurality of agents of a plurality of

different types to communicate with each other, at least some of the agents representing physical entities, the plurality of agents including:

a plurality of device agents, each representing one of the plurality of user devices; and

a plurality of persona agents, which are separate entities from the device agents, each of the persona agents representing one of the plurality of users;

wherein the plurality of persona agents collect information about properties of other agents, including the device agents, and route the collected information to one or more other agents, of the plurality of agents, which subscribe to the properties, said plurality of agents collectively forming a person-to-person electronic messaging application.